



JAMES J. EMME
VICE PRESIDENT
WORLDWIDE EXPLORATION

February 7, 2002

Department of the Interior
Minerals Management Service
Mail Stop 4024
381 Elden Street
Herndon, Virginia 20170-4817
Attention: Rules Processing Team

Re: Proposed rule for Suspension of Operations for Exploration Under Salt Sheets

Dear Minerals Management Service:

Anadarko Petroleum Corporation is pleased to have the opportunity to submit the following comments on the proposed rule for Suspension of Operations for Exploration Under Salt Sheets. We applaud the MMS for drafting this proposed rule to modify regulations that govern suspensions of operations for exploration under salt bodies.

Under this proposed rule change, companies are likely to drill more wells overall, their chances of discovering larger fields are significantly improved, and larger fields mean more domestic reserves and increased royalty revenues to the Government.

Subsalt exploration in the Gulf of Mexico is a high-risk / high-reward endeavor. It's more difficult, time consuming and expensive to develop a good subsalt prospect, and it usually requires drilling more wells and more expensive wells than the typical OCS prospect.

This rule is important and necessary because subsalt geology is so complex and the imaging process takes longer compared to conventional Outer Continental Shelf prospects. The current five-year lease term for OCS blocks can handicap companies pursuing deep, subsalt targets. In some cases, more time may be needed for geophysical imaging. The proposed rule change would allow more time for geophysical imaging of subsalt plays in the Gulf of Mexico – on a case-by-case basis.

The reward is a chance at discovering significantly larger reserves. Lessees who spend millions of dollars in diligent subsalt exploratory studies should not be required to drill prematurely and risk a dry hole in order to maintain a lease.

Anadarko Petroleum Corporation is in favor of the proposed MMS rule, with minor clarifications. Our requested changes are as follows:

1. This rule is issued under the Department's statutory authority to amend rules "to provide for the prevention of waste and conservation of the natural resources of the outer Continental Shelf, and the protection of correlative rights therein..." 43 U.S.C. § 1334(a). Accordingly, this rule "shall, as of [its] effective date, apply to all operations conducted under a lease" issued or maintained under the Outer Continental Shelf Lands Act. *Id.* As we read the proposed rule, MMS intended that this provision, upon its effective date as a final rule, would apply to existing leases already in their fourth or fifth year. However, it is possible that one could misconstrue the reference to the "end of the third lease year" in § 250.175(b)(2) to bar the rule's applicability to leases already past their third year. We would appreciate your clarifying that the rule will apply to all existing leases, including those in their fourth or fifth year, which meet the conditions stated in the text.
2. Section 250.175(b) provides that the Regional Supervisor may grant an SOO "not to exceed 3 years." The 3 year reference is ambiguous in that it is susceptible of different interpretations: (a) one extension for a period of 3 years; (b) one extension for a period not to exceed 3 years; (c) multiple extensions not to exceed 3 years in the aggregate; or (d) multiple extensions each limited to a total of 3 years. We propose that the language be clarified to provide multiple extensions not to exceed 3 years.
3. Section 250.175(b) limits application of the proposed rule to "the Western Gulf of Mexico." We assume that the MMS is following the definition in 30 CFR 250.105, "Western Gulf of Mexico means all OCS areas of the Gulf of Mexico except those the Director decides are adjacent to the State of Florida."
4. Section 250.175(b)(2) requires the lessee to "collect and analyze appropriate geophysical information." This requirement is misleading, particularly when read in conjunction with the statement in the Supplementary Information section at 67 F.R. 1172 which reads: "MMS will require the lessee to have collected and analyzed geophysical information (i.e., full 3-D depth migration beneath the salt sheet and over the entire lease area) before the end of the third lease year..."

The proposed rule should provide that full 3-D *time* migration, rather than *depth* migration, is acceptable as the seismic activity reasonably expected to have been concluded within the first 3 years of the lease term. It is not reasonable for a company to have completed *depth* migration study within the first 3 years. Additionally, "collected" suggests that the lessee may be required to shoot the seismic itself, when the standard practice is to acquire it from a third party. We also believe it is more accurate to describe reprocessing of geophysical data as "interpreted: versus "analyzed." Based on these comments, it is suggested that subsection (2) be revised to read as follows:

The lessee has **acquired and interpreted** appropriate geophysical information, **such as full volume 3-D time migrated seismic data**, prior to the end of the third lease year.

5. Section 250.175(b)(3) does not accurately describe the geophysical information reflected by the seismic. This provision would be more accurate if it read as follows:

Thereafter, the geophysical information confirms the presence of a salt **body** as well as evidence that a drillable objective may exist beneath the salt **body**, or its **correct imaging may be significantly affected by the presence of the salt body**.

The addition of “Thereafter” to this subsection also clarifies that the requirements of confirming the presence of a salt body, conducting additional reprocessing, and submitting an application for an SOO, are all activities contemplated as occurring after the end of the third lease year.

6. Section 250.175(b)(4) should be changed to maintain consistency with the recommended clarification to subsection (2) regarding what is “appropriate geophysical information” to be acquired and analyzed in the first 3 years of the lease term. We believe the requirement in subsection (4) should read as follows:

The applicant has completed additional reprocessing **over the entire lease area, including 3-D depth migration**, prior to submitting the application for suspension; and

7. Section 250.175(b)(5) should maintain consistency with the recommended changes in subsection (3). We recommend the following distinction should be added to subsection (5):

The applicant demonstrates that additional time is necessary to gather new geophysical data or to reprocess or reinterpret existing data to further define drilling objectives beneath **or affected by the presence of the salt body**.

We hope you will consider the minor changes requested above. Anadarko believes this draft MMS rule is a positive step forward, and expects it will encourage more subsalt exploration and production in the Gulf of Mexico by providing greater lease term flexibility.

The potential to obtain a lease extension will draw more oil and gas operators – majors and independents – to explore in the subsalt, many of whom are now on the sidelines because they view the tight time schedule as creating an unacceptable risk. The result will be that more wells will be drilled.

This proposed rule change is also advantageous for the U.S. government as a royalty owner to make the lease terms more conducive to subsalt exploration, because bigger fields yield bigger royalties.

Subsalt discoveries are typically much larger than conventional discoveries and would generate potentially billions of dollars more in royalty revenues for the government.

During the 1990s, the average subsalt field discovered was four times the size of the average conventional field discovery – roughly 60 million barrels of oil equivalent (BOE) of reserves for subsalt fields, compared with 14 million BOE for conventional field discoveries.

Consider the following comparison of the royalty impact (which applies a long-term average commodity price of \$25 oil and \$3 natural gas):

A single subsalt prospect with 60 million BOE of reserves would generate nearly \$200 million in royalty revenues over the field's life, with a present value of more than \$160 million, discounted at 10 percent. That compares to royalties totaling less than \$50 million on a conventional field with 14 million BOE of reserves, with a present value of roughly \$30 million, discounted at 10 percent.

Consider the potential impact of more widespread subsalt exploration and development that could be possible with more flexible lease terms on the shelf.

Anadarko alone has a current inventory of 16 subsalt prospects in its exploration portfolio. Assuming that all 16 result in discoveries, the potential royalty revenues that could accrue to the MMS total \$3.2 billion, with a present value of nearly \$2.6 billion, discounted at 10 percent. More realistically, if only one out of every four wells drilled is successful, the MMS still stands to earn \$800 million in royalties from Anadarko's current subsalt prospects alone, with a present value of \$650 million, discounted at 10 percent.

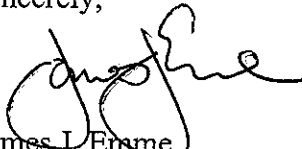
It should be noted that this does not include prospects being evaluated and explored by other companies in the Gulf – or by those who might enter the subsalt arena in the future if more favorable lease terms were introduced.

By comparison, 16 conventional prospects of average size would produce just \$750 million in royalties, with a present value of \$530 million, discounted at 10 percent. As with the subsalt case, if a dry hole factor of 75 percent is factored in, the MMS would earn \$185 million in royalties from this group of conventional prospects, with a present value of \$130 million, discounted at 10 percent. Again, these calculations are based on an average field containing 14 million barrels of reserves.

Clearly, there is a direct and very tangible financial advantage to the MMS and to the taxpayers for encouraging additional subsalt exploration – and continuing forward with the proposed rule change – because the demonstrated likelihood of making much bigger field discoveries equates to much bigger royalty revenues.

Thank you for the opportunity to offer our views on this important rule change, and thank you for the high quality work and forward-looking insight that the MMS contributes.

Sincerely,



James J. Enns

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